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ABSTRACT

Library of Congress call numbers which contain mixed alphameric notations are not readily adaptable for computer sorting. Some editing is required if the sorted call numbers are to correspond to the library shelf arrangement. A PL/1 subroutine that performs such editing is in use at Eastern Illinois University. The computer programs are appended. (Author/LS)

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A PL/1 SUBROUTINE TO EDIT THE LIBRARY OF CONGRESS CALL NUMBERS FOR PROPER SORTING SEQUENCE

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2

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ABSTRACT

The Library of Congress call numbers which contain mixed alphameric notations are not readily adaptable for computer sorting. Some editing is required if the sorted call numbers are to correspond to the library shelf arrangement. This paper describes a PL/1 subroutine which performs such editing. It also describes how this subroutine is being used at Eastern Illinois University with appropriate samples of computer printouts.

A PL/1 SUBROUTINE TO EDIT THE LIBRARY OF CONGRESS CALL NUMBERS FOR PROPER SORTING SEQUENCE

The Library of Congress classification scheme is one of the most widely used classification schemes among the academic libraries. In this scheme various fields of knowledge are represented by a notation that consists of alphameric characters. Though the use of alphameric characters provides for more categories for the scheme, it presents considerable problems when the call numbers constructed according to this scheme are to be sorted on a computer. As long as a scheme consists of pure notations such as all numbers or all letters, there would be no problems for computer sorting. The problems arise with mixed notations like alphameric characters since the computer sorts according to a predetermined collating sequence as built into its internal logic circuits. The computer collating sequence is seldom compatible with mixed notations. For example, in the library shelf arrangement class, 'P1' comes before class 'PA'. On the computer sort, however, class 'PA' appears before class 'P1'. Even within a given class computer sorted call numbers do not appear in the corresponding library shelf arrangement. Consequently, some type of editing has to be done on the mixed notation to make it compatible with the computer's collating sequence which is designed to use pure notation. Eastern Illinois University Library, which has extensive automation programs, developed a PL/1 subroutine to edit the LC call numbers to make them compatible with the IBM S/360 Sort-Merge Program Collating sequence.

Before developing this subroutine we did consider an alternative method which was in use at other schools. This method consisted of

precoding call numbers in a format suitable for computer sorting. For example, the call number P12.5.B27 would be coded as 'PBB12005000B27'. This method, though, presents problems. One, human coding errors while coding and punching are possible. Second, one has to specify the coded number rather than the number listed in the catalog in order to retrieve bibliographic information for that book from a computer file since the call number is the most widely used key to retrieve such information. Third, the precoded numbers with embeded blanks and zeros waste computer file space. So we decided to develop a computer program that would analyze and edit each call number in order for it to appear in proper collating sequence. Since more than one library application is expected to use it, the program is developed as a subroutine so any program associated with any one of our library applications can call it as needed.

An analysis of about 3,000 randomly selected LC call numbers from our library files revealed that each of the LC call numbers may be divided into four subfields to accommodate computer sorting requirements. It further revealed the maximum expected length for each subfield. The following is a breakdown of the subfields.

Subfield 1: Up to three characters long.
May contain one to three alphacharacters.

Subfield 2: Up to four characters long.
May contain one to four numeric characters.

Subfield 3: Up to five characters long.
May contain one to five numeric characters.
Considered as fraction of Subfield 2.

Subfield 4: Up to twenty characters long.
May contain up to twenty alphameric characters.
Contains cutter number portion of the call number.

It is sufficient to edit the first three subfields for computer sorting. A decimal point precedes subfield 3 and subfield 4. Subfields 1 and 2 are always present in each call number. Subfields 2 and 3 are optional in some call numbers; however, subfield 2 is present more often than subfield 3.

Using the above criteria the PL/1 subroutine was developed and it was given the name BARB after the librarian who helped this programmer understand the LC classification system. Appendix A contains the source coding of BARB.

BARB can be invoked by a PL/1 program or by an Assembler Program in a S/360 OS environment. Four arguments need to be passed to it. They are:

Argument 1: Record containing the call number. Since its corresponding parameter in BARB is not declared with explicit length, different length records may be passed to BARB at different invocations without having to change the BARB's source code in any way.

Argument 2: A fixed decimal value that tells the starting position of the call number in the passed records.

Argument 3: A fixed decimal value indicating the length of the call number.

Argument 4: A fixed decimal value indicating the starting position for the edited call number. The edited call number is placed in 32 contiguous bytes starting at the position indicated in this argument.

On the basis of values specified in the arguments, BARB analyzes each call number passed to it, determines how many subfields are present, edits the entire call number with the appropriate number of blanks and zeros, moves the edited call number into the appropriate subfields, and

returns the entire record to the invoking program for further processing. The original call number remains unchanged. In the case of an erroneous call number, such as one containing an alpha character in a numeric field, BARB moves the entire call number to the subfield 4 and prints a message indicating that an uneditable call number was passed to it. Moving an uneditable call number to subfield 4 makes it appear slightly out of sequence after the sort; however, it appears within its main class sequence.

It should be noted by the libraries which are using both the Library of Congress classification system and the Dewey Decimal Classification system, that the Dewey call numbers are not to be passed for editing. An appropriate check point needs to be included in the main routine so that the Dewey call numbers can bypass the editing routine. This should not cause any problem since all LC call numbers begin with a letter and all Dewey call numbers begin with a digit. In addition, for editing the LC call numbers, no prefixes of the call numbers such as 'REF', 'AV', etc., need to be passed. Only the class number and cutter number portions of the call numbers need to be edited to satisfy the sorting requirements.

Appendix B contains two PL programs that invoke BARB. The first one, named LIB35, is written for the PL Optimizing Compiler and the second one, named LIB135, is written for the PL(F) Compiler. In both these programs the main routine invokes the SORT program which in turn invokes a subroutine called EDIT#. The program named LIB35 is expected to process both Dewey and LC call numbers. Consequently, the subroutine EDIT# checks for whether a call number is constructed according to Dewey system or LC system. The EDIT# subroutine passes a Dewey call number directly to SORT. For an LC call number it first passes it to BARB, receives the edited call number, and then passes the edited call number to SORT. The

records containing the sorted call numbers are further processed by the subroutine PRNTLST.

Appendix C shows the sample pages listing the sorted LC call numbers along with other information.

BARB has been in operation at Eastern for over two years now. We have processed over half a million call numbers through BARB and found it to be a reliable solution to a vexing library sorting problem.

Parties interested in using this program may contact this author for additional information.

APPENDIX A

```
EASTERN ILLINOIS UNIVERSITY                                    VER      06/21/76
PANLIB                                                         9.0      18.26.19

                                                          PANVALET
                                                THE PROGRAM MANAGEMENT AND SECURITY SYSTE

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++WRITE PRINT,U011M002
        /* DATA SET U011M002   AT LEVEL 001 AS OF 07/26/74     */
 BARB: PROC (P1,P2,P3,P4); /*SUBROUTINE TO EDIT LC CALL NUMBERS PRIOR TO000001
   OS SORT. EDITED CALL NUMBERS CAN BE SORTED IN SHELFLIST SEQUENCE*/    00002
    DCL P1 CHAR (*) ; /*P1=RECORD PASSED FROM MAIN ROUTINE */           00003
    DCL P2 FIXED (2); /*P2=START POSITION OF CALL# IN THE PASSED REC*/  00004
    DCL P3 FIXED (2); /*LENGTH OF CALL#*/                               00005
    DCL P4 FIXED (2); /*P4=START POSITION OF EDITED CALL# WHICH        00006
  WILL BE PLACED FROM THIS POSITION TO NEXT 32 POSITIONS*/              00007
    DCL CN CHAR(20), CNOUT CHAR (32);                                   00008
    DCL FLD1 CHAR(3) DEF CNOUT,                                         00009
     FLD2 PIC 'ZZZ9' DEF CNOUT POS(4),                                  00010
     FLD3 CHAR (5) DEF CNOUT POS (8),                                   00011
     FLD4 CHAR (20) DEF CNOUT POS(13);                                  00012
 ON CONVERSION BEGIN; PUT SKIP LIST('UNEDITABLE CALL#: '||CN);          00013
    GOTO END_BARB; END;                                                 00014
  CN=SUBSTR(P1,P2,P3); CNOUT=' ';                                       00015
    CN=TRANSLATE(CN,'.','-'); /* REPLACE CALL# - WITH . */              00016
    M3=1; IF SUBSTR(CN,2,1)<'0' THEN DO;                                00017
    IF SUBSTR(CN,3,1)<'0' THEN M3=3; ELSE M3=2; END;                    00018
    FLD1=SUBSTR(CN,1,M3);                                               00019
    M1=INDEX(CN,'.'); /*M1=LOCATION OF 1ST DECIMAL IN CALL#*/           00020
    IF M1=0 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4;                   00021
    FLD3=SUBSTR(CN,M3+1,5); M3=M3+5; GOTO END_BARB; END;                00022
    IF M1>4+M3 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4; M4=M1-M3-1;    00023
    FLD3=SUBSTR(CN,M3+1,M4); M3=M3+M4+1; GOTO END_BARB; END;            00024
  M4=M1-M3-1;  FLD2=SUBSTR(CN,M3+1,M4);  M3=M3+M4+1;                    00025
    M2=INDEX(SUBSTR(CN,M1+1),'.'); /* M2=LOCATION OF 2ND . */           00026
    IF M2>0 THEN DO;  IF SUBSTR(CN,M3+1,1)<'0' THEN GOTO END_BARB;      00027
                  IF M2>5 THEN DO; FLD3=SUBSTR(CN,M3+1,5); M3=M3+5;     00028
   GOTO END_BARB; END;FLD3=SUBSTR(CN,M3+1,M2-1); M3=M3+M2; END;         00029
 END_BARB: FLD4=SUBSTR(CN,M3+1); SUBSTR(P1,P4,32)=CNOUT; END BARB;      00030
***** ABOVE ACTION SATISFACTORILY COMPLETED *****
```

APPENDIX B

SOURCE LISTING

```
STMT

          /* DATA SET U0110035   AT LEVEL 007 AS OF 01/14/76     */
   1  LIB35: PROC OPTIONS(MAIN); /*SELECT,SORT & PRINT DAILY CIRC LIST*/
   2  DCL #LEVNAM CHAR(13) INIT('007U0110035  ') STATIC EXT;
   3     DCL 1 CIRCREC,
          2 QFRX CHAR (1),
          2 CLASS# CHAR (10),
          2 CUT# CHAR (10),
          2 ACC# CHAR (6),
          2 EDYRSER CHAR (3),
          2 VOL CHAR (4),
          2 PSI CHAR (3),
          2 COPY CHAR (2),
          2 AUTHOR CHAR (10),
          2 TITLE CHAR (27),
          2 BSSN CHAR (9),
          2 BTYPE CHAR (1),
          2 DUEDATE,
           3 (MO,DA,YR) CHAR (2),
          2 SAVESTAT CHAR (1),
          2  LCNO CHAR(32);
   4     DCL BC PIC '99' DEF CIRCREC POS(84);
   5  DCL     RTCDE  FIXED BIN(31,0);
   6     CALL PLISRTB(' SORT FIELDS=(94,32,CH,A,31,4,CH,A,35,3,CH,A,28,3,CH,
      A,38,2,CH,A) ',
                  ' RECORD TYPE=F,LENGTH(125) ', 25000,
                  RTCDE,EDIT#);
   7     IF RTCDE ¬=0 THEN DO;
   8           DISPLAY('SORT FAILED');  GOTO EOJ; END;
  11     DISPLAY('CIRCULATION LIST SORT COMPLETED--ENTERING PRINT PHASE');
  12           CALL PRNTLST;
  13  EDIT#: PROC RETURNS(CHAR(125));
          /* DATA SET U011M003   AT LEVEL 001 AS OF 07/26/74     */
  14     DCL 1 BTHREC,
          2 ACD CHAR (1),
          2 CLASS# CHAR (10),
          2 ACC# CHAR (6),
          2 CUT# CHAR (10),
          2 EDYRSER CHAR (3),
          2 VOL CHAR (4),
          2 PSI CHAR (3),
          2 COPY CHAR (2),
          2 LOC CHAR (2),
          2 AUTHOR CHAR (10),
          2 TITLE CHAR (27),
          2 BLANK1 CHAR (1),
          2 NO_CK_OUTS CHAR (3),
          2 STATUS CHAR (1),
          2 BSSN CHAR (9),
          2 BTYPE CHAR (1),
          2 DUEDATE,
           3 (MO,DA,YR) CHAR (2),
```

```
PL/I OPTIMIZING COMPILER                    /* DATA SET U0110035   AT LEVEL 007 AS OF

    STMT

          2 QFRX CHAR (1),
          2 SAVESSN CHAR (9),
          2 (SAVETYPE,SAVESTAT) CHAR (1),
          2 LC_CARD_NO CHAR (12),
          2 BLANK2 CHAR (1);
   15     DCL BOOTH FILE RECORD ENV(INDEXED),
          CIRCTPE FILE RECORD OUTPUT ENV(FB RECSIZE(124) BLKSIZE(1240));
   16     DCL CARD CHAR(125);
   17     DCL (A2,A3,A4) FIXED(2); A2=2; A3=20; A4=94;
   21        ON ENDFILE(BOOTH)BEGIN;
   22            CLOSE FILE(CIRCTPE);
   23          DISPLAY('INPUT TO CIRCLIST SORT COMPLETED');
   24            CALL PLIRETC(8); GOTO END_EDIT#; END;
   27 NEXT: READ FILE(BOOTH)INTO(BTHREC); IF STATUS¬='C' THEN GOTO NEXT;
   29     WRITE FILE(CIRCTPE)FROM(BTHREC);  CIRCREC=BTHREC, BY NAME;
   31     CARD=STRING(CIRCREC);
   32     IF SUBSTR(CLASS#,1,1)>'Z' THEN DO;
   33     SUBSTR(CARD,94)=CLASS#||CUT#; GOTO NO_EDIT; END;
   36         CALL BARB(CARD,A2,A3,A4);
             /* DATA SET U011M002   AT LEVEL 001 AS OF 07/26/74     */
   37 BARB: PROC (P1,P2,P3,P4); /*SUBROUTINE TO EDIT LC CALL NUMBERS PRIOR TO
        OS SORT. EDITED CALL NUMBERS CAN BE SORTED IN SHELFLIST SEQUENCE*/
   38     DCL P1 CHAR (*) ; /*P1=RECORD PASSED FROM MAIN ROUTINE */
   39     DCL P2 FIXED (2); /*P2=START POSITION OF CALL# IN THE PASSED REC*/
   40     DCL P3 FIXED (2); /*LENGTH OF CALL#*/
   41     DCL P4 FIXED (2); /*P4=START POSITION OF EDITED CALL# WHICH
        WILL BE PLACED FROM THIS POSITION TO NEXT 32 POSITIONS*/
   42     DCL CN CHAR(20), CNOUT CHAR (32);
   43     DCL FLD1 CHAR(3) DEF CNOUT,
          FLD2 PIC 'ZZZ9' DEF CNOUT POS(4),
          FLD3 CHAR (5) DEF CNOUT POS (8),
          FLD4 CHAR (20) DEF CNOUT POS(13);
   44 ON CONVERSION BEGIN; PUT SKIP LIST('UNEDITABLE CALL#: '||CN);
   46     GOTO END_BARB; END;
   48    CN=SUBSTR(P1,P2,P3); CNOUT=' ';
   50     CN=TRANSLATE(CN,'.','-'); /* REPLACE CALL# - WITH . */
   51     M3=1; IF SUBSTR(CN,2,1)<'0' THEN DO;
   53     IF SUBSTR(CN,3,1)<'0' THEN M3=3; ELSE M3=2; END;
   56     FLD1=SUBSTR(CN,1,M3);
   57     M1=INDEX(CN,'.'); /*M1=LOCATION OF 1ST DECIMAL IN CALL#*/
   58     IF M1=0 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4;
   61     FLD3=SUBSTR(CN,M3+1,5); M3=M3+5; GOTO END_BARB; END;
   65     IF M1>4+M3 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4; M4=M1-M3-1;
   69     FLD3=SUBSTR(CN,M3+1,M4); M3=M3+M4+1; GOTO END_BARB; END;
   73  M4=M1-M3-1;  FLD2=SUBSTR(CN,M3+1,M4);  M3=M3+M4+1;
   76     M2=INDEX(SUBSTR(CN,M1+1),'.'); /* M2=LOCATION OF 2ND . */
   77     IF M2>0 THEN DO;  IF SUBSTR(CN,M3+1,1)<'0' THEN GOTO END_BARB;
   79                       IF M2>5 THEN DO; FLD3=SUBSTR(CN,M3+1,5); M3=M3+5;
   82    GOTO END_BARB; END;FLD3=SUBSTR(CN,M3+1,M2-1); M3=M3+M2; END;
   87 END_BARB; FLD4=SUBSTR(CN,M3+1); SUBSTR(P1,P4,32)=CNOUT; END BARB;
   90 NO_EDIT: CALL PLIRETC(12); RETURN(CARD);
   92 END_EDIT#:  END  EDIT#;
   93 PRNTLST: PROC; /*PRINT CIRCULATION LIST*/
   94     DCL INFILE FILE RECORD; OPEN FILE(INFILE) TITLE('SORTOUT');
```

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PL/I OPTIMIZING COMPILER                    /* DATA SET U0110035   AT LEVEL 007 AS OF

   STMT

    96      DCL LIST FILE RECORD OUTPUT ENV(F RECSIZE(133) CTLASA),
             1 TLINE, 2 CTL CHAR(1), 2 LINE CHAR(132);
    97      DCL CNT1 FIXED (5) INIT(0);
    98      DCL (PCNT,LCNT) FIXED(4) INIT(0), PGCNT PIC 'ZZZZ9';
    99      DCL BADGE(33) CHAR(10), BCNT(33) FIXED (5); BADGE(*)=' '; BCNT(*)=0;
   102       BADGE(1)='STUDENTS';  BADGE(3)='FACULTY'; BADGE(4)='C.S. STAFF';
   105       BADGE(5)='CITIZEN';
   106       BADGE(12)='CATALOGING';      BADGE(14)='I. S. D.';
   108       BADGE(21)='ACQ. DEPT.';      BADGE(22)='BINDING';
   110       BADGE(24)='DIRECTOR';  BADGE(26)='LIB. SC.';
   112       BADGE(27)='LOST';   BADGE(28)='MENDING';
   114       BADGE(23)='CIRC. DEPT';   BADGE(29)='ARCHIVES';
   116       BADGE(30)='REFERENCE';  BADGE(31)='S. M. C.';
   118       BADGE(32)='SERIALS';  BADGE(33)='WITHDRAWN';
   120      DCL L CHAR(20);  L=TIMEDAY;
              /* DATA SET U011M001   AT LEVEL 002 AS OF 02/11/75     */
   122   TIMEDAY: PROC RETURNS(CHAR(20)); /* FUNCTION TO RETURN DATE & TIME
                                            TO THE CALLING PROGRAM */
   123      DCL R CHAR(20), D CHAR(6), T PIC '(9)9';
   124      DCL MO PIC 'Z9' DEF D POS(3), YR PIC 'Z9' DEF D,
              DY PIC 'Z9' DEF D POS(5);
   125      DCL HR PIC 'Z9' DEF T, MN PIC 'Z9' DEF T POS(3);
   126      DCL S CHAR(1) INIT('/'), (DATE,TIME) BUILTIN;
   127         D=DATE;  R='  '||MO||S||DY||S||YR;  S=':';
   130         T=TIME;  IF HR>0 & HR<12 THEN DO;
   132         SUBSTR(R,13)=HR||S||MN||' AM'; GOTO END_TD; END;
   135                  IF HR>12 & HR<24 THEN DO; HR=HR-12;
   137         SUBSTR(R,13)=HR||S||MN||' PM'; GOTO END_TD;  END;
   140                  IF HR=0 | HR=24 THEN DO;  HR=12;
   142       IF MN=0 THEN SUBSTR(R,13)=HR||S||MN||' M';
   143               ELSE SUBSTR(R,13)=HR||S||MN||' AM'; GOTO END_TD; END;
   146       IF HR=12 THEN IF MN=0 THEN SUBSTR(R,13)=HR||S||MN||' N';
   147                   ELSE SUBSTR(R,13)=HR||S||MN||' PM';
   148   END_TD: RETURN(R);  END TIMEDAY;
   150      CALL TPAGE;
   151   TPAGE: PROC;
   152      DO I=1 TO 2;    LINE=' '; CTL='1';
   155   SUBSTR(LINE,41)='EASTERN ILLINIOS UNIVERSITY LIBRARY CIRCULATION LIST';
   156    DO J=1 TO 10; WRITE FILE(LIST)FROM(TLINE); CTL=' '; END;
   160      LINE=' '; CTL='-';
   162   SUBSTR(LINE,33)='THIS PRINTOUT LISTS ALL BOOKS CHECKED OUT AS OF:'||L;
   163      WRITE FILE (LIST) FROM (TLINE);   LINE=' ';
   165   SUBSTR(LINE,31)='FOR INFORMATION ON MORE RECENT CHECKOUTS INQUIRE AT TH
   166   E CIRCULATIONS DESK';   WRITE FILE(LIST)FROM(TLINE); LINE=' ';
   168   SUBSTR(LINE,34)='AN ASTERISK (*) PRECEDING A CALL NUMBER INDICATES A BO
   169   OK ON SAVE'; WRITE FILE(LIST)FROM(TLINE); LINE=' ';
   171   SUBSTR(LINE,36)='A PLUS(+) PRECEDING A CALL NUMBER INDICATES AN OVERSIZ
   172   E BOOK'; WRITE FILE(LIST)FROM(TLINE); LINE=' ';
   174   SUBSTR(LINE,33)='FOR FACULTY & SPECIAL BADGE CHECKOUTS----DATE PRINTED
   175   IS CHECKOUT DATE'; WRITE FILE(LIST)FROM(TLINE); LINE=(132)'*';
   177      DO J=1 TO 3; WRITE FILE(LIST)FROM(TLINE); END; LINE=' ';
   181   SUBSTR(LINE,41)='LC CALL NUMBER  SORTING TECHNIQUES USED IN THIS LIST';
   182     WRITE FILE(LIST)FROM(TLINE);    LINE=' ';
   184         SUBSTR(LINE,61)='DEVELOPED BY';
```

```
PL/I OPTIMIZING COMPILER                    /* DATA SET U0110035   AT LEVEL 007 AS OF

     STMT

      185       WRITE FILE(LIST) FROM(TLINE); LINE=' ';
      187     SUBSTR(LINE,44)='PALADUGU V RAO, SYSTEMS ENGINEER,  EIU LIBRARY';
      188      WRITE FILE(LIST)FROM(TLINE);    LINE=' ';
      190           WRITE FILE (LIST) FROM (TLINE);
      191    SUBSTR(LINE,41)='EASTERN ILLINIOS UNIVERSITY LIBRARY CIRCULATION LIST';
      192     DO J=1 TO 10; WRITE FILE(LIST)FROM(TLINE); CTL=' '; END;
      196       END;      END TPAGE;
      198       ON ENDFILE(INFILE) GOTO FINISH;
      199       READ FILE(INFILE);
      200    HEAD: CTL='1'; LINE=' '; LCNT=0; PCNT=PCNT+1; PGCNT=PCNT;
      205        SUBSTR(LINE,8)='PROG#:U0110035';
      206    SUBSTR(LINE,30)='EASTERN ILLINOIS UNIVERSITY LIBRARY---CIRCULATION LIST
      207    '||L;    SUBSTR(LINE,112)='PAGE:'||PGCNT;
      208    WRITE FILE(LIST)FROM(TLINE); LINE=(132)'*';    CTL='0';
      211    WRITE FILE(LIST)FROM(TLINE); LINE=' ';
      213       SUBSTR(LINE,8)='CALL NUMBER';
      214       SUBSTR(LINE,27)='ACC#';
      215       SUBSTR(LINE,35)='VOL';
      216       SUBSTR(LINE,42)='PART';
      217       SUBSTR(LINE,49)='ED.';
      218       SUBSTR(LINE,55)='COPY';
      219       SUBSTR(LINE,62)='AUTHOR';
      220       SUBSTR(LINE,83)='T I T L E';
      221       SUBSTR(LINE,105)='DUE DATE';
      222       SUBSTR(LINE,116)='BORROWER TYPE';
      223    WRITE FILE(LIST)FROM(TLINE); LINE=(132)'*';    CTL='0';
      226    WRITE FILE(LIST)FROM(TLINE); LINE=' ';
      228    START: READ FILE(INFILE) INTO(CIRCREC); CNT1=CNT1+1;
      230       IF QFRX='R' THEN QFRX=' ';          IF QFRX='&' THEN QFRX='+';
      232       IF SAVESTAT='Y' THEN SAVESTAT='*'; ELSE SAVESTAT=' ';
      234       LINE=SAVESTAT||QFRX||CLASS#||CUT#;
      235      SUBSTR(LINE,26)=ACC#;  SUBSTR(LINE,35)=VOL;
      237       SUBSTR(LINE,43)=PSI;  SUBSTR(LINE,49)=EDYRSER;
      239       SUBSTR(LINE,56)=COPY;    SUBSTR(LINE,62)=AUTHOR;
      241       SUBSTR(LINE,75)=TITLE;  SUBSTR(LINE,105)=MO||'/'||DA||'/'||YR;
      243     IF BTYPE='1' THEN DO; SUBSTR(LINE,116)=BSSN||' STU';
      245       BCNT(1)=BCNT(1)+1;  GOTO PRINT;    END;
      248     IF BTYPE='3' THEN DO; SUBSTR(LINE,116)=BSSN||' FAC';
      250       BCNT(3)=BCNT(3)+1;  GOTO PRINT;    END;
      253       IF BTYPE='4' THEN DO;
      254        IF BSSN='999999999' THEN DO; SUBSTR(LINE,116)='CITIZEN';
      256         BCNT(5)=BCNT(5)+1;  GOTO  PRINT; END;
      259                             SUBSTR(LINE,116)=BSSN||' STF';
      260       BCNT(4)=BCNT(4)+1;  GOTO PRINT;    END;
      263     IF BTYPE='5' THEN DO;  IF BC>0 & BC <34 THEN DO; M=BC;
      266       SUBSTR(LINE,116)=BADGE(M); BCNT(M)=BCNT(M)+1; GOTO PRINT; END; END;
      271       SUBSTR(LINE,116)=BSSN;  SUBSTR(LINE,126)=BTYPE||'IBC';
      273    PRINT: WRITE FILE(LIST)FROM(TLINE); LINE=' '; LCNT=LCNT+1;
      276       CTL=' '; IF LCNT>50 THEN GOTO HEAD; ELSE GOTO START;
      279    FINISH: CTL='1'; LINE=' ';
      281       SUBSTR(LINE,46)='CIRCULATION SUMMARY'||L;
      282             WRITE FILE(LIST)FROM(TLINE); CTL='0'; LINE=' ';
      285       DO I=1 TO 33; IF BCNT(I)>0 THEN DO; PGCNT=BCNT(I);
      288         SUBSTR(LINE,46)='TOTAL CHECKOUTS BY: '||BADGE(I);
```

```
PL/I OPTIMIZING COMPILER                    /* DATA SET U0110035   AT LEVEL 007 AS OF

     STMT

      289          SUBSTR(LINE,82)=PGCNT; WRITE FILE(LIST)FROM(TLINE); END; END;
      293          CTL='-'; SUBSTR(LINE,46)='TOTAL CIRCULATION: '||CNT1;
      295           WRITE FILE(LIST)FROM(TLINE); END PRNTLST;
      297    EOJ:
                END LIB35;
```

```
/* DATA SET U0110135   AT LEVEL 012 AS OF 09/17/74     */


       /* DATA SET U0110135   AT LEVEL 012 AS OF 09/17/74     */
LIB135: PROC OPTIONS(MAIN); /*SELET,SORT & PRINT SPECIFIED CHECKOUTS*/ 00001
DCL #LEVNAM CHAR(13) INIT('012U0110135  ') STATIC EXT;
   DCL 1 CIRCREC,                                                     00002
    2 QFRX CHAR (1),                                                  00003
    2 CLASS# CHAR (10),                                               00004
    2 CUT# CHAR (10),                                                 00005
    2 ACC# CHAR (6),                                                  00006
    2 EDYRSER CHAR (3),                                               00007
    2 VOL CHAR (4),                                                   00008
    2 PSI CHAR (3),                                                   00009
    2 COPY CHAR (2),                                                  00010
    2 AUTHOR CHAR (10),                                               00011
    2 TITLE CHAR (27),                                                00012
    2 BSSN CHAR (9),                                                  00013
    2 BTYPE CHAR (1),                                                 00014
    2 DUEDATE,                                                        00015
     3 (MO,DA,YR) CHAR (2),                                           00016
    2 SAVESTAT CHAR (1),                                              00017
    2  LCNO CHAR(32);                                                 00018
   DCL CHK_CODE(10) PIC '99';  DCL  NO FIXED (2);                     00019
    GET LIST(NO); DO I=1 TO NO; GET LIST(CHK_CODE(I)); END;           00020
   DCL  PUNCH_CODE CHAR (1); GET LIST(PUNCH_CODE);                    00021
   DCL BC PIC '99' DEF CIRCREC POS (84);                              00022
   DCL IHESRTB ENTRY(CHAR(67),CHAR(28), FIXED BIN(31,0),              00023
                FIXED BIN(31,0),ENTRY);                               00024
   DCL EDIT# ENTRY RETURNS(CHAR(125)),                                00025
       IHESARC ENTRY(FIXED BIN(31,0)),                                00026
       RTCDE  FIXED BIN(31,0);                                        00027
    CALL IHESRTB(' SORT FIELDS=(94,32,CH,A,31,4,CH,A,35,3,CH,A,28,3,CH,00028
A,38,2,CH,A) ',                                                       00029
            ' RECORD TYPE=F,LENGTH=(125) ', 25000,                    00030
            RTCDE,EDIT#);                                             00031
    IF RTCDE ¬=0 THEN DO;                                             00032
         DISPLAY('SORT FAILED');  GOTO EOJ; END;                      00033
    DISPLAY('CALL NUMBER SORT COMPLETED--ENTERING PRINT PHASE');      00034
         CALL PRNTLST;                                                00035
EDIT#: PROC RETURNS(CHAR(125));                                       00036
       /* DATA SET U011M003   AT LEVEL 001 AS OF 07/26/74     */
   DCL 1 BTHREC,                                                      00001
    2 ACD CHAR (1),                                                   00002
    2 CLASS# CHAR (10),                                               00003
    2 ACC# CHAR (6),                                                  00004
    2 CUT# CHAR (10),                                                 00005
    2 EDYRSER CHAR (3),                                               00006
    2 VOL CHAR (4),                                                   00007
    2 PSI CHAR (3),                                                   00008
    2 COPY CHAR (2),                                                  00009
    2 LOC CHAR (2),                                                   00010
    2 AUTHOR CHAR (10),                                               00011
    2 TITLE CHAR (27),                                                00012
    2 BLANK1 CHAR (1),                                                00013
    2 NO_CK_OUTS CHAR (3),                                            00014
    2 STATUS CHAR (1),                                                00015
    2 BSSN CHAR (9),                                                  00016
    2 BTYPE CHAR (1),                                                 00017
    2 DUEDATE,                                                        00018
```

```
/* DATA SET U0110135   AT LEVEL 012 AS OF 09/17/74     */

      3 (MO,DA,YR) CHAR (2),                                                00019
     2 QFRX CHAR (1),                                                       00020
     2 SAVESSN CHAR (9),                                                    00021
     2 (SAVETYPE,SAVESTAT) CHAR (1),                                        00022
     2 LC_CARD_NO CHAR (12),                                                00023
     2 BLANK2 CHAR (1);                                                     00024
   DCL BOOTH FILE RECORD ENV(REWIND);                                       00038
   DCL CARDOUT FILE RECORD OUTPUT ENV(F(81) CTLASA);                        00039
   DCL 1 OUTCARD, 2 CTC CHAR(1), 2 CRD CHAR(80);                            00040
   DCL OUTCRD CHAR (80) DEF BTHREC;                                         00041
   DCL CARD CHAR(125), SC PIC '99' DEF BTHREC POS(91);                      00042
   DCL BARB ENTRY(CHAR(*),FIXED(2),FIXED(2),FIXED(2));                      00043
   DCL (A2,A3,A4) FIXED(2); A2=2; A3=20; A4=94;                             00044
      ON ENDFILE(BOOTH)BEGIN;                                               00045
        DISPLAY('INPUT TO CIRCLIST SORT COMPLETED');                        00046
          CALL IHESARC(8); GOTO END_EDIT#; END;                             00047
NEXT: READ FILE(BOOTH)INTO(BTHREC); IF BTHREC.BTYPE¬='5' THEN GOTO NEXT00048
;  DO I=1 TO NO; IF CHK_CODE(I)=SC THEN GOTO SELECT; END;                   00049
        GOTO NEXT;                                                          00050
 SELECT:                                                                    00051
    IF PUNCH_CODE='Y' THEN DO;                                              00052
    ACD='D';  CRD=OUTCRD; WRITE FILE(CARDOUT)FROM(OUTCARD); END;            00053
    CIRCREC=BTHREC, BY NAME;                                                00054
    CARD=STRING(CIRCREC);                                                   00055
        CALL BARB(CARD,A2,A3,A4);                                           00056
       /* DATA SET U011M002    AT LEVEL 001 AS OF 07/26/74     */
BARB: PROC (P1,P2,P3,P4); /*SUBROUTINE TO EDIT LC CALL NUMBERS PRIOR T000001
  OS SORT. EDITED CALL NUMBERS CAN BE SORTED IN SHELFLIST SEQUENCE*/    00002
   DCL P1 CHAR (*) ; /*P1=RECORD PASSED FROM MAIN ROUTINE */            00003
   DCL P2 FIXED (2); /*P2=START POSITION OF CALL# IN THE PASSED REC*/   00004
   DCL P3 FIXED (2); /*LENGTH OF CALL#*/                                00005
   DCL P4 FIXED (2); /*P4=START POSITION OF EDITED CALL# WHICH         00006
 WILL BE PLACED FROM THIS POSITION TO NEXT 32 POSITIONS*/               00007
   DCL CN CHAR(20), CNOUT CHAR (32);                                    00008
   DCL FLD1 CHAR(3) DEF CNOUT,                                          00009
    FLD2 PIC 'ZZZ9' DEF CNOUT POS(4),                                   00010
    FLD3 CHAR (5) DEF CNOUT POS (8),                                    00011
    FLD4 CHAR (20) DEF CNOUT POS(13);                                   00012
ON CONVERSION BEGIN; PUT SKIP LIST('UNEDITABLE CALL#: '||CN);           00013
    GOTO END_BARB; END;                                                 00014
  CN=SUBSTR(P1,P2,P3); CNOUT=' ';                                       00015
    CN=TRANSLATE(CN,'.','-'); /* REPLACE CALL# - WITH . */              00016
    M3=1; IF SUBSTR(CN,2,1)<'0' THEN DO;                                00017
    IF SUBSTR(CN,3,1)<'0' THEN M3=3; ELSE M3=2; END;                    00018
    FLD1=SUBSTR(CN,1,M3);                                               00019
    M1=INDEX(CN,'.'); /*M1=LOCATION OF 1ST DECIMAL IN CALL#*/           00020
    IF M1=0 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4;                   00021
    FLD3=SUBSTR(CN,M3+1,5); M3=M3+5; GOTO END_BARB; END;                00022
    IF M1>4+M3 THEN DO; FLD2=SUBSTR(CN,M3+1,4); M3=M3+4; M4=M1-M3-1;    00023
    FLD3=SUBSTR(CN,M3+1,M4); M3=M3+M4+1; GOTO END_BARB; END;            00024
 M4=M1-M3-1;  FLD2=SUBSTR(CN,M3+1,M4);  M3=M3+M4+1;                     00025
    M2=INDEX(SUBSTR(CN,M1+1),'.'); /* M2=LOCATION OF 2ND . */           00026
    IF M2>0 THEN DO;  IF SUBSTR(CN,M3+1,1)<'0' THEN GOTO END_BARB;      00027
                   IF M2>5 THEN DO; FLD3=SUBSTR(CN,M3+1,5); M3=M3+5;    00028
  GOTO END_BARB; END;FLD3=SUBSTR(CN,M3+1,M2-1); M3=M3+M2; END;          00029
END_BARB: FLD4=SUBSTR(CN,M3+1); SUBSTR(P1,P4,32)=CNOUT; END BARB;       00030
        CALL IHESARC(12); RETURN(CARD);                                 00058
```

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/* DATA SET U0110135   AT LEVEL 012 AS OF 09/17/74     */

END_EDIT#:  END  EDIT#;                                                    00059
PRNTLST: PROC; /*PRINT CIRCULATION LIST*/                                  00060
   DCL INFILE FILE RECORD; OPEN FILE(INFILE) TITLE('SORTOUT');             00061
   DCL LIST FILE RECORD OUTPUT ENV(F(133) CTLASA),                         00062
    1 TLINE, 2 CTL CHAR(1), 2 LINE CHAR(132);                              00063
   DCL CNT1 FIXED (5) INIT(0);                                             00064
   DCL (PCNT,LCNT) FIXED(4) INIT(0), PGCNT PIC 'ZZZZ9';                    00065
   DCL BADGE(33) CHAR(10), BCNT(33) FIXED (5); BADGE(*)=' '; BCNT(*)=0;00066
    BADGE(1)='STUDENTS';  BADGE(3)='FACULTY'; BADGE(4)='C.S. STAFF';       00067
    BADGE(5)='CITIZEN';                                                    00068
    BADGE(12)='CATALOGING';      BADGE(14)='I. S. D.';                     00069
    BADGE(21)='ACQ. DEPT.';      BADGE(22)='BINDING';                      00070
    BADGE(24)='DIRECTOR';  BADGE(26)='LIB. SC.';                           00071
    BADGE(27)='LOST';   BADGE(28)='MENDING';                               00072
    BADGE(23)='CIRC. DEPT';    BADGE(29)='ARCHIVES';                       00073
    BADGE(30)='REFERENCE';  BADGE(31)='S. M. C.';                          00074
    BADGE(32)='SERIALS';  BADGE(33)='WITHDRAWN';                           00075
   DCL TIMEDAY RETURNS(CHAR(20));                                          00076
   DCL L CHAR(20);  L=TIMEDAY;                                             00077
      /* DATA SET U011M001    AT LEVEL 002 AS OF 02/11/75     */
TIMEDAY: PROC RETURNS(CHAR(20)); /* FUNCTION TO RETURN DATE & TIME        00001
                                    TO THE CALLING PROGRAM */              00002
   DCL R CHAR(20), D CHAR(6), T PIC '(9)9';                                00003
   DCL MO PIC 'Z9' DEF D POS(3), YR PIC 'Z9' DEF D,                        00004
       DY PIC 'Z9' DEF D POS(5);                                           00005
   DCL HR PIC 'Z9' DEF T, MN PIC 'Z9' DEF T POS(3);                        00006
   DCL S CHAR(1) INIT('/'), (DATE,TIME) BUILTIN;                           00007
      D=DATE;  R='  '||MO||S||DY||S||YR;  S=':';                           00008
      T=TIME;  IF HR>0 & HR<12 THEN DO;                                    00009
      SUBSTR(R,13)=HR||S||MN||' AM'; GOTO END_TD; END;                     00010
               IF HR>12 & HR<24 THEN DO; HR=HR-12;                         00011
      SUBSTR(R,13)=HR||S||MN||' PM'; GOTO END_TD;  END;                    00012
               IF HR=0 | HR=24 THEN DO;  HR=12;                            00013
    IF MN=0 THEN SUBSTR(R,13)=HR||S||MN||' M';                             00014
          ELSE SUBSTR(R,13)=HR||S||MN||' AM'; GOTO END_TD; END;            00015
    IF HR=12 THEN IF MN=0 THEN SUBSTR(R,13)=HR||S||MN||' N';               00016
             ELSE SUBSTR(R,13)=HR||S||MN||' PM';                           00017
END_TD: RETURN(R);  END TIMEDAY;                                           00018
    ON ENDFILE(INFILE) GOTO FINISH;                                        00079
HEAD: CTL='1'; LINE=' '; LCNT=0; PCNT=PCNT+1; PGCNT=PCNT;                  00080
    SUBSTR(LINE,8)='PROG#:U0110135';                                       00081
SUBSTR(LINE,27)='EASTERN ILLINOIS UNIVERSITY LIBRARY---SPECIAL CHECKOUT00082
S LIST'||L; SUBSTR(LINE,112)='PAGE:'||PGCNT;                               00083
WRITE FILE(LIST)FROM(TLINE); LINE=(132)'*';   CTL='0';                     00084
WRITE FILE(LIST)FROM(TLINE); LINE=' ';                                     00085
    SUBSTR(LINE,8)='CALL NUMBER';                                          00086
    SUBSTR(LINE,27)='ACC#';                                                00087
    SUBSTR(LINE,35)='VOL';                                                 00088
    SUBSTR(LINE,42)='PART';                                                00089
    SUBSTR(LINE,49)='ED.';                                                 00090
    SUBSTR(LINE,55)='COPY';                                                00091
    SUBSTR(LINE,62)='AUTHOR';                                              00092
    SUBSTR(LINE,83)='T I T L E';                                           00093
    SUBSTR(LINE,105)='DUE DATE';                                           00094
    SUBSTR(LINE,116)='BORROWER TYPE';                                      00095
WRITE FILE(LIST)FROM(TLINE); LINE=(132)'*';   CTL='0';                     00096
WRITE FILE(LIST)FROM(TLINE); LINE=' ';                                     00097
```

```
/* DATA SET U0110135   AT LEVEL 012 AS OF 09/17/74    */

START: READ FILE(INFILE) INTO(CIRCREC); CNT1=CNT1+1;                          00098
    IF QFRX='R' THEN QFRX=' ';          IF QFRX='&' THEN QFRX='+';            00099
    IF SAVESTAT='Y' THEN SAVESTAT='*'; ELSE SAVESTAT=' ';                     00100
    LINE=SAVESTAT||QFRX||CLASS#||CUT#;                                        00101
   SUBSTR(LINE,26)=ACC#;  SUBSTR(LINE,35)=VOL;                                00102
    SUBSTR(LINE,43)=PSI;  SUBSTR(LINE,49)=EDYRSER;                            00103
    SUBSTR(LINE,56)=COPY;   SUBSTR(LINE,62)=AUTHOR;                           00104
    SUBSTR(LINE,75)=TITLE;  SUBSTR(LINE,105)=MO||'/'||DA||'/'||YR;            00105
    IF BTYPE=1 THEN DO; SUBSTR(LINE,116)=BSSN||' STU';                        00106
    BCNT(1)=BCNT(1)+1;  GOTO PRINT;   END;                                    00107
    IF BTYPE=3 THEN DO; SUBSTR(LINE,116)=BSSN||' FAC';                        00108
    BCNT(3)=BCNT(3)+1;  GOTO PRINT;   END;                                    00109
   IF BTYPE=4 THEN DO;                                                        00110
     IF BSSN='999999999' THEN DO; SUBSTR(LINE,118)='CITIZEN';                 00111
      BCNT(5)=BCNT(5)+1;  GOTO  PRINT; END;                                   00112
    SUBSTR(LINE,116)=BSSN||' STF';                                            00113
    BCNT(4)=BCNT(4)+1; GOTO PRINT; END;                                       00114
   IF BTYPE=5 THEN DO; IF BC>0 & BC<34 THEN DO; M=BC;                         00115
    SUBSTR(LINE,116)=BADGE(M); BCNT(M)=BCNT(M)+1; GOTO PRINT; END; END;       00116
    SUBSTR(LINE,116)=BSSN;  SUBSTR(LINE,126)=BTYPE||'IBC';                    00117
PRINT: WRITE FILE(LIST)FROM(TLINE); LINE=' '; LCNT=LCNT+1;                    00118
    CTL=' '; IF LCNT>50 THEN GOTO HEAD; ELSE GOTO START;                      00119
FINISH: CTL='1'; LINE=' ';                                                    00120
    SUBSTR(LINE,48)='CIRCULATION SUMMARY'||L;                                 00121
          WRITE FILE(LIST)FROM(TLINE); CTL='0'; LINE=' ';                     00122
    DO I=1 TO 33; IF BCNT(I)>0 THEN DO; PGCNT=BCNT(I);                        00123
      SUBSTR(LINE,46)='TOTAL CHECKOUTS BY: '||BADGE(I);                       00124
      SUBSTR(LINE,82)=PGCNT; WRITE FILE(LIST)FROM(TLINE); END; END;           00125
      CTL='-'; SUBSTR(LINE,46)='TOTAL CIRCULATION: '||CNT1;                   00126
       WRITE FILE(LIST)FROM(TLINE); END PRNTLST;                              00127
EOJ:                                                                          00128
DISPLAY('PLEASE INTERPRET CARDOUTPUT FROM JOB: U0110135');                    00129
    END LIB135;                                                               00130
```

APPENDIX C

	CALL NUMBER	ACCN	VOL	PART	ED.	COPY
	H62-M2353	302832			S73	
	H62-M9	219351				
*	H62-N3	146937	0035			
	H62-N3	313906	0044		S74	
	H62-N32XC8	252945			.014	
*	H62-S475	200454				
	H62-S475	219845				02
	H83-A65	269267				
	H91-D78	275227				
	H594-H627	141018				
	HA29-B56	063893				
	HA29-C253	326756			S74	
*	HA29-C58	091749				
	HA29-D68	217420			S65	
	HA29-E37	140470				
*	HA29-E7	244223				
	HA29-F4	256203			S71	
	HA29-F6828	307577			S74	
	HA29-F685	108268				
	HA29-F685	191119			967	
	HA29-G9	178140			S65	
	HA29-H242	229331				
	HA29-H352	295940			S73	
*	HA29-H66	247043				
	HA29-H82	111338				
	HA29-H85-1967X	261743				02
	HA29-H85-1973	323820			S73	
	HA29-J584	108293				
	HA29-R37	269747				
	HA29-S579-1972	307882			S72	
	HA29-S622	259388				
*	HA29-S67	102268			S67	
	HA29-W468-1965X	148639				
	HA29-Y2	218817			S67	
	HA33-H87	234503				
	HA33-N48	246492			S70	
	HA33-N48-1975	321436			S75	
	HA33-N48-1975	321438			S75	03
	HA33-R85	242635				
	HA217-A4-1974	319280			S74	
	HA341-A37-1971-3	319306			S74	
	HA341-A37-1973	331218			S75	02
	HA344-A47-1972	282340			S72	
	HB1-A5	015009	0006			
	HB34-M5	282297				02
	HB71-V64-1957X	286904				
	HB72-C45	091969				
	HB75-D446	306146			S73	
	HB97-5-G66	198499				
	HB97-5-S512	274637				
	HB99-3-M55	264461				

	CALL NUMBER	ACCN	VOL	PART	ED.	COPY
	H62-M2353	302032			S73	
	H62-M9	219351				
<	H62-N3	146937	0035			
	H62-N3	313906	0044		S74	
	H62-N32X08	252945			014	
*	H62-S475	30045+				
	H62-S475	217845				02
	H83-A65	269267				
	H91-D78	275227				
	H594-H627	141018				
	HA29-B46	063893				
	HA29-C453	326756			S74	
*	HA29-C58	091749				
	HA29-D68	317420			S65	
	HA29-E37	140470				
*	HA29-E7	244223				
	HA29-F4	256203			S71	
	HA29-F6E28	307577			S74	
	HA29-F685	108248				
	HA29-F685	191119			967	
	HA29-G9	176140			S65	
	HA29-H242	229331				
	HA29-H352	295940			S73	
*	HA29-H66	247043				
	HA29-H82	111338				
	HA29-H85-1967X	261743				02
	HA29-H85-1973	323820			S73	
	HA29-J584	108293				
	HA29-R37	269747				
	HA29-S578-1972	307882			S72	
	HA29-S622	259388				
*	HA29-S67	192268			S67	
	HA29-W468-1965X	148639				
	HA29-Y2	218817			S67	
	HA33-H87	234503				
	HA33-N48	246492			S70	
	HA33-N48-1975	321436			S75	
	HA33-N48-1975	321438			S75	03
	HA33-R85	242635				
	HA217-A4-1974	319280			S74	
	HA341-A37-1971-3	319306			S74	
	HA341-A37-1973	331218			S75	02
	HA344-A47-1972	282340			S72	
	HB1-A5	015009	0006			
	HB34-M5	282297				02
	HB71-V64-1967X	286904				
	HB72-C45	091969				
	HB75-D446	306146			S73	
	HB97-5-G66	198499				
	HB97-5-S512	274637				
	HB99-3-M55	264461				

	CALL NUMBER	ACC#	VOL	PART	ED.	COPY
	G155-P985	077347	0020			
	G504-S57	218908			968	
	G510-G766	253015			968	
	G510-S673	272769				
	G510-S826	174001				
	G513-R413	277205			971	
	G514-M6	311179			972	
	G514-P5	237706				
	G540-D219	093887				
	G670-1909-P7M3	049304				
	G850-1928-G6	037055				
	G850-1933-A3	043849				
	G1106-K2A8	286418			972	
	GA23-M53	267417				
	GA130-M65-1963X	192747				
	GA151-G7	063853				
	GA151-G7	142227			964	
	GA151-R3-1959X	116344				
	GA201-R313-1964A	142690				
	GB55-K64	332417			974	
	GB115-A8	053203				
	GB121-N27	004635				02
	GE41-J3-1972B	292633				
	GE47-N37	289014			972	
	GN21-L4B66	288117				
	GN21-M36A32	286854				
	GN24-A55	305492			971	
	GN24-B4	173736			965	
	GN24-M58	215028			969	
	GN27-H35	162971				
	GN62-S5	058154				
	GN237-B4	035725				
*	GN281-R413	291494				
	GN290-I83	037453				
	GN320-W74	091328				
	GN400-H58	116156				
	GN400-W4	117857			959	
	GN470-R3	115441			957	
	GN475-E-M3-1963X	176736				
*	GN478-S35	163312			966	
*	GN480-F6	162590				
	GN490-S45-1962X	227680				
	GN492-C5X	186489				
	GN652-S884	220292			969	
*	GN657-T5C63-1967X	241432				
	GN665-M23-1972	309112			972	
	GN666-B87	313224			973	
	GN751-B39-1969X	290063				
*	GN751-C35	291935			968	
	GN751-D68	305948			973	
	GR103-D82	307072			969	

CALL NUMBER	ACC#	VOL	PART	ED.	COPY
G159-P985	077347	0020			
G504-S57	218908			968	
G510-G766	253015			969	
G510-P673	272768				
G510-S826	174001				
G513-R413	277205			971	
G514-M6	311179			972	
G514-P5	237706				
G540-0219	093837				
G670-1909-P7M3	049304				
G850-1928-G6	037055				
G850-1933-A3	043849				
G1106-P2A8	286418			972	
GA23-M53	267417				
GA130-M65-1963X	192747				
GA151-G7	063853				
GA151-G7	142227			964	
GA151-R3-1959X	116344				
GA201-R313-1964A	142690				
GB55-K64	332417			974	
GB115-A6	053203				
GB121-N27	004635				02
GB41-J3-19728	292633				
GB47-N37	289014			972	
GN21-L4866	288117				
GN21-M36A32	286854				
GN24-A55	305492			971	
GN24-B4	173736			965	
GN24-M58	215028			969	
GN27-H35	162971				
GN62-S5	058154				
GN237-B4	035725				
* GN281-R413	291494				
GN290-I83	037453				
GN320-W74	091328				
GN400-H58	116156				
GN400-W4	117857			959	
GN470-R3	115441			957	
GN475-5-M5-1963X	176736				
* GN478-S35	163312			966	
* GN480-E6	162590				
GN490-S45-1962X	227680				
GN493-C5X	186489				
GN652-S884	220292			969	
* GN657-T5C63-1967X	241432				
GN665-M23-1972	309212			972	
GN666-R87	313224			973	
GN751-B39-1969X	290063				
* GN751-C35	291935			968	
GN751-D68	305948			973	
GR103-D82	307072			969	